

AMENDMENTS TO THE CLAIMS:

If entered, this listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A system to adjust colors in any kind of electronic display comprising:
  - a color screen used as a display using primary colors of a color space;
  - a system processor sending downloading display data to a display driver circuit; and
  - a display driver circuit comprising:
    - a processor interface logic providing the interface between said system processor and said display driver circuit;
    - a display adjust circuit adjusting the display data received from said system processor via said processor interface logic and writing a modified display data into a display RAM wherein said adjustment is performed for each color by linearly scaling by a programmable amount according equations by a simple operations of color adjust registers, wherein said amount corresponds to: adjustment = color<sub>unadjusted</sub>/2<sup>n</sup> ~~operation comprises a factor 2<sup>n</sup>~~, wherein n is a parameter set for each primary color;
    - said one or more color adjust registers;
    - the display RAM for storing the adjusted display data, and

a screen driver controlling said screen and sending said adjusted display data to said screen.

2. (original) The system of claim 1 wherein said color space is RGB.
3. (original) The system of claim 1 wherein said color space is CMY.
4. (original) The system of claim 1 wherein said screen is a LCD display.
5. (original) The system of claim 4 wherein said LCD display is a CSTN display.
6. (original) The system of claim 4 wherein said LCD display is a DSTN display.
7. (original) The system of claim 1 wherein said screen is a TFT display.
8. (original) The system of claim 1 wherein said screen is an OLED display.
9. (original) The system of claim 1 wherein said display adjust circuit is using two color adjust registers to store the adjustment data defining the amount of adjustments.
10. (original) The system of claim 9 wherein said color adjustment registers are storing the adjustment data for each of all primary colors of the color space selected.

**11.** (original) The system of claim **10** wherein said color adjustment registers are comprising three bits to store the adjustment information for each of two primary colors and four bits for a third primary color.

**12.** (original) The system of claim **11** wherein said color adjustment registers are comprising three bits to store the adjustment information for each of red color and blue color and four bits for green color.

**13.** (original) The system of claim **1** wherein said display data are stored in said display RAM using a 16-bit word.

**14.** (original) The system of claim **13** wherein said 16-bit word comprises five bits each for two primary colors and six bits for a third primary color.

**15.** (original) The system of claim **14** wherein said 16-bit word comprises five bits for each red and blue 5 and 6 bits for green.

**16.** (original) The system of claim **1** wherein the color display data is linearly scaled by programmable amount.

**17. (original)** The system of claim 16 wherein the display data are adjusted for each color according equations which are implemented in said display adjust circuit using a hardware description language.

**18. (original)** The system of claim 17 wherein the display data are adjusted for each color according equations which are implemented in said display adjust circuit using register transfer level (RTL) language.

**19. (original)** The system of claim 16 wherein each primary color of the color display data is linearly scaled by programmable amount and wherein said programmable amount is defined in case of a required decrease of a primary color according to the equation

$$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} - \text{color}_{\text{unadjust}}/2^n,$$

wherein  $\text{color}_{\text{adjust}}$  is the value of the adjusted color,  $\text{color}_{\text{unadjust}}$  is the value of unadjusted color, and  $n$  is a parameter set for each primary color according to the desired adjustment.

**20. (original)** The system of claim 16 wherein each primary color of the color display data is linearly scaled by programmable amount and wherein said programmable amount is defined in case of a required increase of a primary color according to the equation

$$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} + \text{color}_{\text{unadjust}}/2^n,$$

wherein  $\text{color}_{\text{adjust}}$  is the value of the adjusted color,  $\text{color}_{\text{unadjust}}$  is the value of unadjusted color, and  $n$  is a parameter set for each primary color according to the desired adjustment.

**21.** (original) The system of claim 1 wherein said display driver circuit is implemented as an IC.

**22.** (original) The system of claim 1 wherein said display driver circuit is implemented as an ASIC.

**23.** (currently amended) A method to adjust colors in any kind of electronic display comprising:

providing a display screen, a system processor, and a display driver circuit comprising a processor interface logic, a display adjust circuit, one or more color adjust registers, a display RAM and a screen driver circuit;

define adjustment data for each primary color used by said display screen to adjust said colors according to the properties of said screen;

store said adjustment data for each primary color in one or more registers providing one or more bits for each primary color;

define a word structure to operate the unadjusted display data and to store the adjusted display data in a display RAM wherein for each primary color a defined number of bits is assigned; implement an algorithm to adjust each of the primary colors, used by said screen, in said display adjust circuit using a hardware description language; download display data from system processor into display adjust circuit; adjust display data in display adjust circuit according to algorithm implemented earlier, wherein said amount corresponds to: adjustment = color<sub>unadjusted</sub>/2<sup>n</sup> algorithm comprises a factor 2<sup>n</sup>, wherein n is a parameter set for each primary color and according adjustment data defined and stored earlier and write adjusted display data into display RAM; and forward adjusted display data from the display RAM to the display screen by the screen driver circuit.

**24.** (original) The method of claim 23 wherein said primary colors belong to RGB color space.

**25.** (original) The method of claim 23 wherein said primary colors belong to CMY color space

**26.**(original) The method of claim 23 wherein said word structure comprises a 16-bit word.

**27.**(original) The method of claim 26 wherein said 16-bit word comprises five bits each for two primary colors and six bits for a third primary color.

**28.**(original) The method of claim 27 wherein said 16-bit word comprises five bits for each red and blue 5 and 6 bits for green.

**29.**(original) The method of claim 23 wherein said hardware description language is register transfer level (RTL) language.

**30.**(original) The method of claim 23 wherein said algorithm to decrease a primary color value is

$$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} - \text{color}_{\text{unadjust}}/2^n,$$

wherein  $\text{color}_{\text{adjust}}$  is the value of the adjusted color,  $\text{color}_{\text{unadjust}}$  is the value of unadjusted color, and  $n$  is a parameter set for each primary color according to the desired adjustment.

**31.**(previously presented) The method of claim 23 wherein said algorithm to increase a primary color value is

$$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} [-] + \text{color}_{\text{unadjust}}/2^n,$$

wherein  $\text{color}_{\text{adjust}}$  is the value of the adjusted color,  $\text{color}_{\text{unadjust}}$  is the value of the unadjusted color, and  $n$  is a parameter set for each primary color according to the desired adjustment.

**32.** (original) The method of claim 23 wherein said color adjustment registers are comprising three bits to store the adjustment data for each of two primary colors and four bits for a third primary color.

**33.** (original) The method of claim 32 wherein said color adjustment registers are comprising three bits to store the adjustment data for each of blue and red and four bits for green.

**34.** (original) The method of claim 33 wherein said adjustment data for the color red are the following bit combinations:

011 = +25% (2-bit shift and add),

010 = +12.5% (3-bit shift and add),

001 = +6.3% (4-bit shift and add),

000 = no change (default value),

101 = -6.3% (4-bit shift and subtract),

110 = -12.5% (3-bit shift and subtract),

111 = -25% (2-bit shift and subtract)

**35. (original)** The method of claim 33 wherein said adjustment parameters

for the color blue are the following bit combinations:

011 = +25% (2-bit shift and add),

010 = +12.5% (3-bit shift and add),

001 = +6.3% (4-bit shift and add),

000 = no change (default value),

101 = -6.3% (4-bit shift and subtract),

110 = -12.5% (3-bit shift and subtract),

111 = -25% (2-bit shift and subtract)

**36. (original)** The method of claim 32 wherein said adjustment parameters

for the color green are the following bit combinations:

0100 = +25% (2-bit shift and add)

0011 = +12.5% (3-bit shift and add)

0010 = +6.3% (4-bit shift and add)

0001 = +3.1% (5-bit shift and add)

0000 = no change (default value)

1001 = -3.1% (5-bit shift and subtract)

1010 = -6.3% (4-bit shift and subtract)

1011 = -12.5% (3-bit shift and subtract)

1100 = -25% (2-bit shift and subtract).